



**PULLMAN
PLANT
MATERIALS
CENTER**

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**Natural Resources
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Service**

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*Finding Vegetative
Solutions to
Conservation Problems*

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**To: Field offices
Plant Materials Centers
Plant Materials Specialists**

Subj.: Update of Pullman PMC activities for Apr. 1 – Jun. 30, 2K.

The Pullman PMC quarterly update is intended to provide field staff with a short description of PMC current activities. Please take a few minutes to read it, pass it along to others in your office, and when fully routed, feel free to file it in your recycle bin.

PLANT DEVELOPMENT

Two plant studies were installed at the WSU Lind Dryland Experiment Station this spring. The first study was planted on April 13th and consisted of native dryland legumes. We would like to thank all field staff that collected seed for this study. Preliminary results look good and one of the better performing species is *Lupinus lepidus* (Prairie Lupine). Wayne Crowder is spearheading this study.

The second planting at Lind was planted On May 2nd and compares 2 lines of dryland alfalfa. This study was also planted near Lewiston, ID. Data will be collected this coming spring and will determine if drought tolerance is mainly attributed to drought escape, i.e. the plants go dormant before the onset of hot summer.

Release notices were signed by the State Conservationists of Idaho, Oregon and Washington for the release of 3 superior Serviceberry collections: T33548 from Pend Oreille county, T33580 from Latah county, and T33672 from Okanogan county. These plants have been tested at the Pullman PMC and in field plantings in Idaho.

Three additional riparian shrub species remain "in the release mill" at the Pullman PMC: Douglas Hawthorn Mockorange, and Chokecherry. Look for additional releases soon.

TECHNOLOGY TRANSFER

The PMC took part in a couple site visits to collect information on poor survival of CRP shrubs. The common denominator was lack of hardening of the plants. Plants accumulate solutes in the intracellular space to prevent the formation of ice crystals. These solutes are generally sugars. If the plant fails to accumulate enough sugar in the intracellular space, they are prone to frost damage. Hardening triggers plants to accumulate sugars. Furthermore, plants can 'de-harden' if they are metabolically active and are placed in a light deprived environment. The sugars are catabolized to provide energy. Technical Note 37 authored by Kevin Guinn and Elyse Benson was revised to include more information on certifying CRP trees and shrubs for frost hardiness.

TECHNOLGY TRANSFER CONT'D

Courtney Smith, Range Con, and Mark Stannard established several herbicide trials in Asotin county. High rates of 2 graminicides were applied over recently out-planted CRP shrubs. The objectives of this study are to; 1) determine level of grass suppression, 2) determine if either of these compounds is injurious to CRP shrubs. Courtney is spearheading this study and will be presenting the results in a poster paper. The results will also be shared in a Technical Note.

Stannard visited wheatgrass production fields at the request of L&H Seeds to collect information on potential disease problems in the fields. Areas varying in size from a few square yards to several hundred square yards had dead plants. The problem was not specific to any single species. Plants were taken to WSU and Dr. Cook's technicians' determined that the problem was Take-All. Take-all is most commonly associated with wheat and is a serious soil borne fungal disease. It is not seed borne. It was recommended that the fields be rotated with a broadleaf crop for a few years rather than wheat which has been L&H's traditional rotation crop.

Agronomy Technical Note #44 was drafted and sent to Spokane for review that summarizes the cover crop studies conducted by the Pullman PMC and WSU. Mathematical models were developed to calculate biomass accumulation based upon daily temperatures. These models were then plugged into historical weather records for several central Washington communities.

Tony Ingersoll, Tri-state Agronomist, and the PMC participated in an Earth Day program at WSU. The PMC provided a 1959 2.5-ton yellow dump truck, native plants, and a poster paper depicting soil loss changes in the Palouse. The old truck was a real eye catcher and literally thousands of WSU students, faculty, and staff swung by to see what the NRCS was showing. Ingersoll answered numerous questions about farming practices and the people left with a much more positive opinion about farming.

Wayne Crowder and Joe Entilla, SCEP student from Guam, rated a hybrid poplar study established in Latah county. An early fall frost last year caused severe injury to many trees. Trees most damaged were hybrids with parents originating from the West side and the southern United States. The Pullman PMC hybrid faired much better. It has been in stand at the PMC since 1977 and has endured numerous adverse weather events.

The PMC completed a study on black cottonwood establishment. Cuttings were installed in a wet area last spring. Initial observations indicated excellent survival and growth. However, none of these trees were alive in spring 2000. The plants were dug and the woody tissue & roots were rotten. Soil pits were dug and gleying was observed at a depth of ~18". It would appear that pole planting of cottonwood is not an acceptable practice in soils subject to anaerobic conditions close to the surface.

The PMC completed its Annual Technical Report for 98-99 (misnomer??). This document is over 300 pages long and is a thorough compellation of PMC activities.

MISCELLENEOUS

Darren Lavey, WSU student, was hired by the PMC to replace Geoff Lentz. Geoff graduated and has embarked on a career in the computer business. Darren is converting the UNIX-based PMC software into a Windows-based platform.

Seed of 'Bromar' Mountain brome and a historic review of this release were provided to Leonard Jordan. Jordan participated in a ground-breaking ceremony for a Learning Center and he donated the seed from the NRCS.

Mark Stannard
PMC Team Leader